

BACTERIAL MENINGITIS

How is bacterial meningitis different from other kinds of meningitis?

Meningitis is swelling and inflammation of the lining around the brain. Meningitis can be caused by infection with viruses, several different types of bacteria, or sometimes by a fungus. All types of meningitis tend to cause symptoms that include fever, headache and stiff neck. *Viral meningitis* is rarely fatal and does not require antibiotics. Patients with viral meningitis may receive antibiotics initially until bacteria are ruled out as the cause of their infection. *Bacterial meningitis* is usually more serious than viral meningitis and is sometimes fatal. Antibiotics are lifesaving and should be started as early as possible when bacterial meningitis is suspected.

Type of bacteria which cause meningitis:	Who is at risk?	Prevention measures
<i>Streptococcus pneumoniae</i> (pneumococcal meningitis)	Invasive pneumococcal disease occurs in ~13/100,000 persons, with meningitis affecting ~1/100,000. Infants, unvaccinated children, elderly, smokers, persons with immune problems or chronic medical conditions are at increased risk	Pneumococcal conjugate vaccine (PCV, Prevnar®) is recommended for infants beginning at age 2 months; provides long-term immunity against 7 types. Pneumococcal polysaccharide vaccine (PPV, Pneumovax®) is recommended for elderly or persons >2 years old with medical risks; provides medium-term immunity against 23 types
<i>Neisseria meningitidis</i> (meningococcal meningitis)	Invasive meningococcal disease is rare (~0.5 to 1/100,000) and about half occurs as meningitis. Infants, military recruits, travelers, adolescents, especially college freshmen living in dormitories, and smokers are at increased risk	A single dose of meningococcal conjugate vaccine (MCV, Menactra™) is recommended at age 11-12 years or at high school entry. For college freshmen living in dormitories that have not previously received MCV, a single dose is recommended, but meningococcal polysaccharide vaccine (MPV, Menomune™) is an acceptable alternative. Close (“kissing”) contacts of cases need antibiotics; spread by droplets from mouth and nose
<i>Haemophilus influenzae</i> type b (Hib meningitis)	Hib disease is extremely rare (~0.03/100,000) due to effective childhood vaccination. Infants and unvaccinated children remain at some risk	Hib vaccines (several brands) required for infants >2 months; provide long-term immunity against Hib

How easy is it to spread bacterial meningitis?

- Although it is a dangerous disease, bacterial meningitis is not easily spread from person-to-person. Transmission occurs through droplets from the mouth or nose, usually through coughing, sneezing or kissing, and not from just being nearby. When it does occur, transmission rarely results in disease.
- As many as 15 percent of adults carry disease-causing strains of bacteria in their nose and throats but do not become sick themselves. Carriers eventually develop immunity to the bacteria.
- Most transmission is from carrier-to-carrier, not from sick patients. Most people who become infected do not know from whom the infection came.
- Antibiotics given to household and other very close (“kissing”) contacts further reduce the risk of disease transmission caused by *Neisseria meningitidis*.

What are the symptoms of bacterial meningitis?

All types of meningitis cause fever, headache, stiff neck, and sometimes vomiting and sensitivity to light. Bacterial meningitis can lead to brain damage and coma. Anyone with fever and a stiff neck should be evaluated promptly; a laboratory test can identify the type of meningitis causing the illness. Symptoms of lethargy, confusion, or a purplish spotty or splotchy rash should trigger an immediate trip to the doctor or emergency room.

How is bacterial meningitis treated?

Powerful intravenous antibiotics are needed to treat bacterial meningitis. Steroids are often used to reduce swelling of the brain.

Are there vaccines that protect against bacterial meningitis?

Vaccines are available to prevent the three main types of bacterial meningitis, but cannot prevent all cases. Many vaccines do not work well in infants, and in some cases, disease occurs in persons where predicted risk of disease is low and vaccine was not recommended. There are highly effective vaccines providing long-term protection against Hib and seven major strains of pneumococcal disease in children, which are recommended beginning at age 2 months. Other vaccines are available for pneumococcal disease and meningococcal disease targeting high-risk groups of older children, adolescents or adults.

What can I do to reduce my child's chances of getting bacterial meningitis?

All persons should avoid smoking and exposure to secondhand smoke, which are risk factors for meningococcal disease. Practice good hygiene by washing hands and covering coughs and sneezes. To protect against Hib and childhood pneumococcal infections, have your child vaccinated promptly, starting at 2 months of age; don't wait until the child is ready to enter school. For adolescents, a single dose of meningococcal conjugate vaccine (MCV) is recommended, starting at age 11-12 years. MCV prevents infection with four strains of meningococcal bacteria, including two of three major strains in the U.S.

Where can I get more information about bacterial meningitis?

For more information about bacterial meningitis, contact the Division of Public Health at (404) 657-2700.

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